FIG. 1
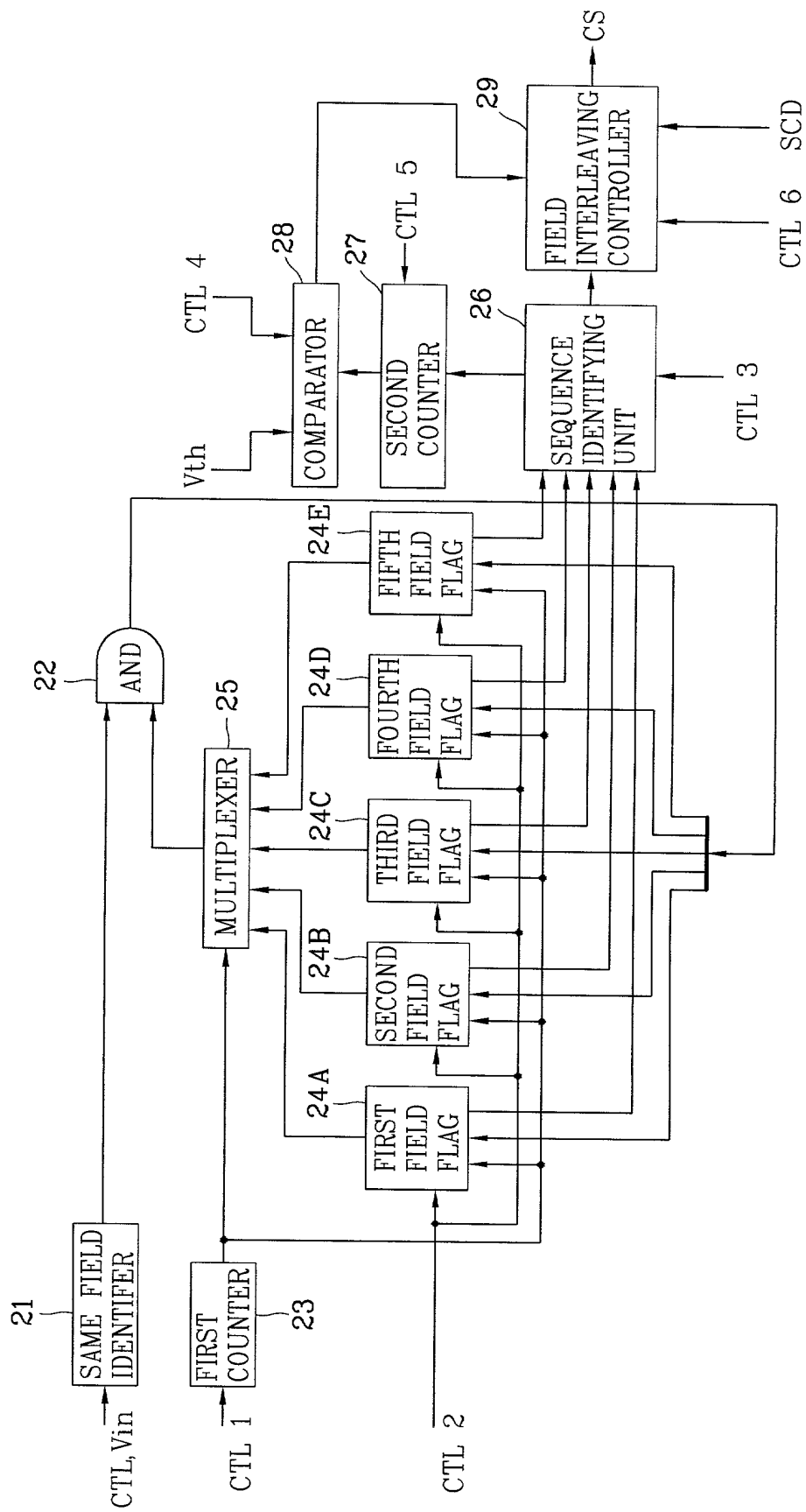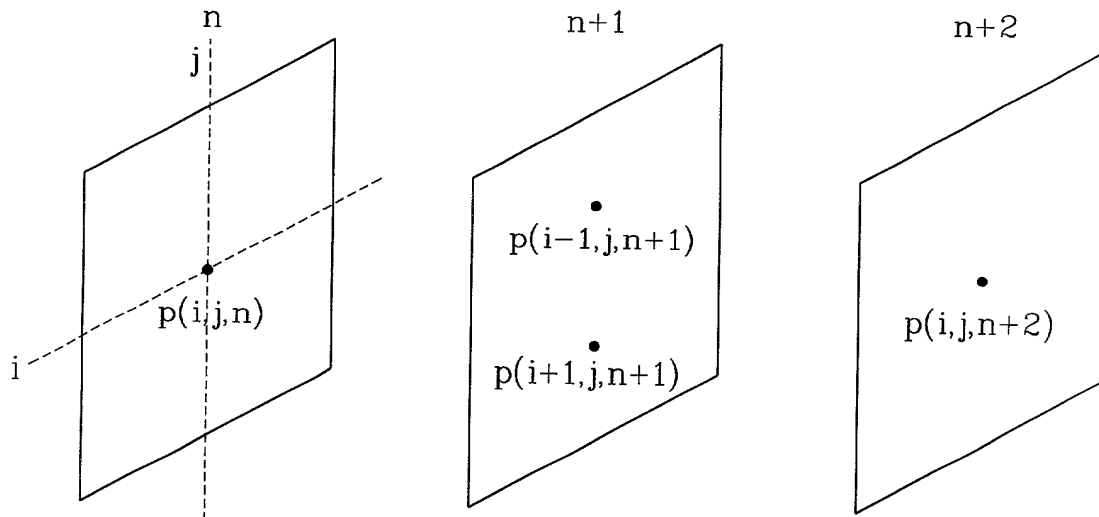
FIG. 2

FIG. 3

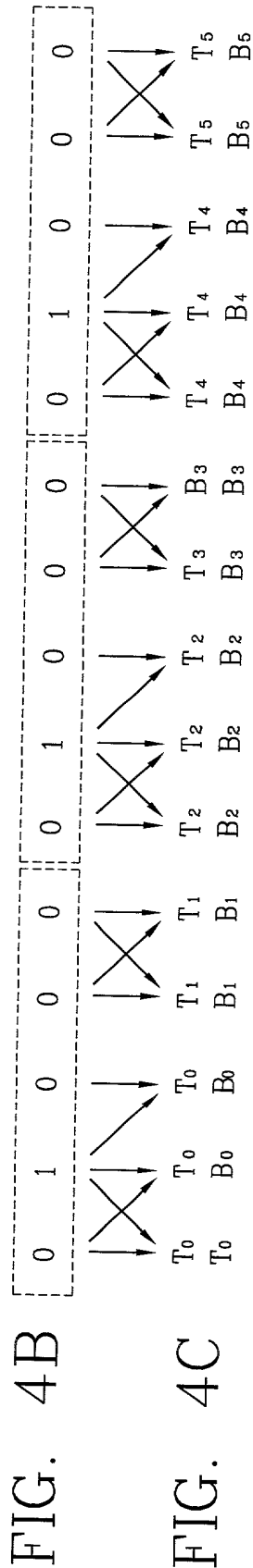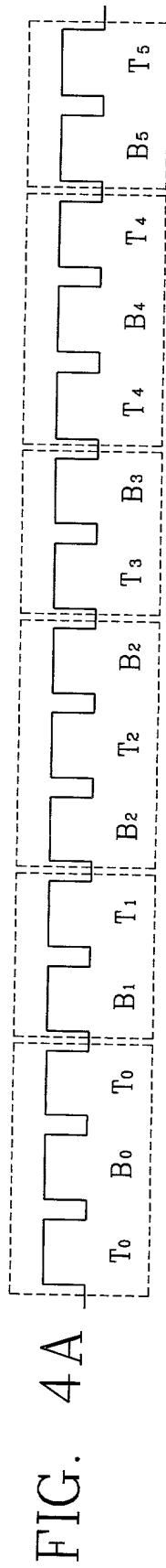FIG. 4A

FIG. 4B

FIG. 4C

FIG. 5A

All variables are initialized to 0's every field.

```
FOR(i=1; i<Vertical_Size; i++){
    FOR(j=0; j<Horizontal_Size; j++){
        half_interval= | p(i-1,j,n+1)-p(i+1,j,n+1) | /2
        mean=(p(i-1,j,n+1)+p(i+1,j,n+1))/2

        bd_(n+2&n)= | p(i,j,n+2)-p(i,j,n) |
        IF( | p(i,j,n)-mean | ≤half_interval) THEN
            bd_(n+1&n)=0
        ELSE
            bd_(n+1&n)= | p(i,j,n)-mean | -half_interval
        END IF
        final_bd_(n+1&n)=min{bd_(n+2&n),bd_(n+1&n)}
        sum_(n+1&n)=sum_(n+1&n)-motion_(n+1&n)[0]
        FOR(k=0; k<6; k++)motion_(n+1&n)[k]=motion_(n+1&n)[k+1]
        IF(final_bd_(n+1&n)>THRESHOLD motion ) THEN
            motion_(n+1&n)[6]=1
        ELSE
            motion_(n+1&n)[6]=0
        END IF
        sum_(n+1&n)=sun_(n+1&n)+motion_(n+1&n)[6]
        IF(sum_(n+1&n)>3) THEN
            total_motion_(n+1&n)=total_motion_(n+1&n)+1
        END IF
        IF( | p(i,j,n+2)-mean | ≤half_interval) THEN
            bd_(n+1&n+2)=0
        ELSE
            bd_(n+1&n+2)= | p(i,j,n+2)-mean | -half_interval
        END IF
        final_bd_(n+1&n+2)=min{bd_(n+2&n),bd_(n+1&n+2)}
        sum_(n+1&n+2)=sum_(n+1&n+2)-motion_(n+1&n+2)[0]
        FOR(k=0; k<6; k++) motion_(n+1&n+2)[k]=motion_(n+1&n+2)[k+1]
        IF(final_bd_(n+1&n+2)>THRESHOLD motion ) THEN
            motion_(n+1&n+2)[6]=1
        ELSE
            motion_(n+1&n+2)[6]=0
        END IF
        sum_(n+1&n+2)=sum_(n+1&n+2)+motion_(n+1&n+2)[6]
        IF(sum_(n+1&n+2)>3) THEN
            total_motion_(n+1&n+2)=total_motion_(n+1&n+2)+1
        END IF
    }
}
```

FIG. 5B

IF(|total_motion_(n+1&n)−total_motion_(n+1&n+2)| <THRESHOLD$_{diff\_motion}$) THEN
   "The scene change did not occurred."
ELSE
   IF(total_motion_(n+1&n)<THRESHOLD$_{total\_motion}$) THEN
      total_motion_(n+1&n)=0
   END IF

   IF(total_motion_(n+1&n+2)<THRESHOLD$_{total\_motion}$) THEN
      total_motion_(n+1&n+2)=0
   END IF

   IF(total_motion_(n+1&n)<total_motion_(n+1&n+2) THEN
      "The scene was abruptly changed in the (n+2)th field."
   ELSE IF(total_motion_(n+1&n)>total_motion_(n+1&n+2)) THEN
      "The scene was abruptly changed in the (n+1)th field."
   ELSE
      "The scene change did not occurred."
   END IF
END IF

FIG. 6

All variables are initialized to 0's every field.

FOR(i=1; i<Vertical_Size; i++){
   FOR(j=0; j<Horizontal_Size; j++){
      half_interval= |p(i−1,j,n+1)−p(i+1,j,n+1)| /2
      mean=(p(i−1,j,n+1)+p(i+1,j,n+1))/2

      IF(|p(i,j,n)−mean|≤half_interval) and(|p(i,j,n+2)−mean|≤half_interval))
         THEN bd_(n+2&n)=0
      ELSE
         bd_(n+2&n)=| p(i,j,n+2)−p(i,j,n)|
      END IF
      sum_(n+2&n)=sum_(n+2&n)−motion_(n+2&n)[0]
      FOR(k=0; k<6; k++)motion_(n+2&n)[k]=motion_(n+2&n)[k+1]
      IF(final_bd_(n+2&n)>THRESHOLD$_{motion}$) THEN
         motion_(n+2&n)[6]=1
      ELSE
         motion_(n+2&n)[6]=0
      END IF
      sum_(n+2&n)=sun_(n+2&n)+motion_(n+2&n)[6]
      IF(sum_(n+2&n)>3) THEN
         total_motion_(n+2&n)=total_motion_(n+2&n)+1
      END IF
   }
}